

Mammoth Area Quakes Not Volcanic

Tom Woods, Sierra Wave (Bishop), 7-23-10

Here we go again, or same old same old? With two sizeable earthquakes centered near Mammoth Lakes in less than a week, scientists with the USGS report that the quakes do not appear to be anything unusual.

Residents have described sharp shocks from the magnitude 3.4 that occurred on Saturday evening and the 3.8 that occurred on Thursday morning. Both were centered on the southern margin of the Long Valley Caldera, near the Mammoth Yosemite Airport.

Anytime the ground shakes in the Mammoth Lakes area, some long time residents reminisce about the early 80's when shaking from the earth seemed almost constant and the possibility of a volcanic eruption appeared to be very real.

Dave Hill, who has monitored the Long Valley Caldera for decades, says the quakes are normal for the geologically active Eastern Sierra, but he does say that a magnitude 3.4 earthquake doesn't produce as many aftershocks as have been observed with this sequence. He calls these aftershocks, "interesting."

Despite being centered in the caldera, Hill explained that these quakes appear to be a stress adjustment on faults rather than related to magma. In other words these appear to be regular earthquakes, rather than a sign of increased volcanism. USGS has instruments at many locations in the caldera to watch for changes. In some instruments, the tilt meters can measure minuscule changes in the earth. So far the tilt meters don't show any change, Hill says.

There is a hill above the Mammoth Yosemite airport, known as the resurgent dome, which is at the center of the Long Valley Caldera. The resurgent dome grew 80 cm between the late 70's and about the year 2000, due to rising magma. Since that time, Hill says the dome has shown little growth. "It went up and stayed up," Hill explained.

With nothing out of the ordinary showing up in this widely studied area, the volcanic alert level on the USGS website remains where it usually sits, at normal.